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tian women, in every part of the country, ready gladly and intelligently to carry out the plans transmitted to them. * * * Napoleon Bonaparte would never have been the Napoleon of history if he had had no army."

Mrs. Hunt's allusion to Napoleon is unfortunate, for how Bonaparte was 'officially appointed' to rule over his army we all know.

I must admit that my term 'self-constituted and official oligarchy' was apparently not strictly accurate; and I confess myself at a loss for the right term; 'monarchy' or 'dictatorship' might perhaps fit the case better, but would probably not meet with Mrs. Hunt's approval; and I find her term 'organized motherhood' also open to objection.

As to the statement, 'Professor Sedgwick falls into line with them [that is the liquor dealers] when he attempts to support his objection with a quotation from a letter written, he says, by a representative of a publishing house,' I desire simply to recall what I actually did say, which was that the letter quoted by me constituted an 'opinion,' merely, the existence of which seemed to me noteworthy and unfortunate.

Finally, I may say that I shall be happy to send a copy of my Chicago address to any one who is unable to refer to it in SCIENCE of January 10.

W. T. SEDGWICK.

SHORTER ARTICLES.

PRELIMINARY OBSERVATIONS ON A SUBDERMAL MITE OCCURRING AMONG THE BIRDS IN THE NEW YORK ZOOLOGICAL PARK.

DURING the month of February, 1901, four white ibises (*Guara alba*) died in the bird-house of the New York Zoological Park, and neither gross nor microscopical examination showed pathological evidence sufficient to account for the death of the birds, but on beginning to skin a fifth ibis, two peculiar patches were observed on the under surface of the skin on each side of the keel of the sternum. At first glance these looked as a heron's skin does, beneath powder-down patches, where the ends of the tiny quills are plainly visible, all pointing in one direction. A closer examination showed these patches to consist of many hundreds of small mites, close together, all

lying lengthwise. A yellowish exudation and a small amount of watery matter was observed in the vicinity of these patches.

During the early months of 1901, a number of other birds died from the ravages of this peculiar pest. Two valuable great-crowned pigeons (*Goura coronata*) showed, besides large numbers of these mites, numerous oval parasites in the red blood-cells. A little blue heron (*Ardea cœrulea*) and several Nicobar pigeons (*Calœnas nicobarica*) had congested lungs and large numbers of the mites.

The present winter, only two birds have died from this cause, although the mites have been detected in two living birds. In a white ibis which succumbed, the parasites were smaller and less numerous than in the birds of the same species which died last winter. The second bird which died was a roseate spoonbill (*Ajaja ajaja*), in which the mites were large and numerous.

The mites vary greatly in size and appearance, but the largest individuals are 1.50 mm. in length and about .50 mm. in breadth. Eight five-jointed legs are present, four near each end of the longish-oval body. The most noticeable characteristics are the brownish, probably chitinous, leg-supporting structures which vary in complexity with the size of the individual. In a small specimen these are comparatively simple, while in mites of larger size they ramify into complex structures. Six of the legs bear numerous short hairs, while two at one end of the body end in a single long bristle.

The temperature of the bird-house has been kept quite low during the present winter, with distinctly beneficial results to the birds, and this may also account for the absence or small size of the mites.

Drawings have been made of specimens and, although distinct, the organism most resembles the worm-shaped pigeon mite (*Hypo-dectes columbarum*) superficially described by Dr. Anton Zürn in 'Die Krankheiten des Hausgeflügels.'

He evidently knows but little about the mite, but quotes from Megnin and others and gives one or two rather suggestive hints which it is expected will soon be worked out by ex-

periments among the birds in the New York Zoological Society's collection.

Speaking of this mite, Zürn says: "Wohnort. Im Unterhautzellgewebe, ferner im Bauchfell, in den serösen Überzügen der Eingeweide, in dem Bindegewebe, welches die grösseren Blutgefässe, namentlich die Aorta, umgibt, bei Tauben und einigen wildlebenden Vögeln." In all the birds which have come under my observation the mites have been absolutely confined to an irregular patch on each side of the breast-bone.

Another paragraph of interest follows: "*Hypodectes columbarum* ist keine fertig entwickelte Milbe, sondern die Larve einer solchen. Megnin hält sie für die Nymphe einer ungekannten Milbe, wahrscheinlich eines *Pterolichus*. Der genannte Forscher will eine solche wurmförmige Larve oder Nymphe auf einem sich mausernden Vogel beobachtet haben, wie sie in die klaffenden Follikel der ausgefallenen Federn eindrang; * * * Ist die Mauser vorüber, dann nehmen die Nymphen die normale Form an, indem sie sich aus ihren Hüllen befreien und auf die Oberfläche der Haut wandern."

This subdermal form may be the immature stage of an arthropod with incomplete metamorphosis, and as the birds afflicted had passed their moult, the fact that entrance was gained through a gaping feather follicle is not impossible. The hairs on the legs of these organisms would certainly seem to suggest that part, at least, of their existence is spent where these would be of more use than in an inch or two of subcutaneous tissue.

In two living ibises incisions in the skin of the breast were made, and by pushing the skin back and forth near the pectoral muscle, to which it is so loosely attached, a number of very small mites were 'teased' into view, but these birds have shown no ill effects from them.

If the ravages of these mites ever become again troublesome, the treatment suggests itself of injecting or applying some liquid inimical to parasites, as iodine, during the moulting of the birds which seem to be particularly susceptible.

Attempts to inoculate pigeons have not thus

far been made, as in dead birds the parasites have been also without life, and the living birds which have been examined have been too valuable to warrant any extensive incision for the purpose of obtaining living mites.

C. WILLIAM BEEBE.

March 18, 1902.

NOTE ON *DISCORBINA RUGOSA* D'ORBIGNY, FROM PROVINCETOWN, CAPE COD.

THROUGH the courtesy of Professor J. Henry Blake, of Harvard, the writer recently received a number of specimens of Foraminifera from various localities. Among this material was some shore sand from Provincetown, Cape Cod, Mass., which contained a large number of foraminifera. Upon examination these were found to belong to a single species, namely *Discorbina rugosa* d'Orbigny.

The species is a particularly interesting one, since it does not appear to be at all common at the present time. The *Challenger* Expedition obtained the species from only two stations: off Papua, near Raine Island, depth 155 fathoms, and off Ki Island, 580 fathoms.

D'Orbigny in his report in 1839 on the Foraminiferes American Meridionale, described the shell under the name *Rosalina rugosa* from the Bay of St. Blas, Patagonia.

In the 'Challenger Report' Brady describes the shell as follows: "A more or less explanate modification of *Discorbina* resembling *Anomalina ammonoides* in general contour. The test is compressed and exhibits some approach to bilateral symmetry, and the peripheral edge is round and lobulated. The umbilical cavity of the inferior side is partially covered in by valvular flaps protecting the successive apertures."

This shell is very abundant in the Cape Cod shore sand at Provincetown, but the writer was unable to find a single specimen in some material submitted from Woods Holl. A more thorough examination may perhaps reveal the shell in other localities along the Atlantic coast, but it is probably confined to northern waters. Our specimens are large, well developed, of a dark brownish color and in a state of perfect preservation.

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